

### **Amendments to the claims**

This listing of claims replaces all prior versions, and listings, of claims in the application.

### **Listing of claims**

1. (Currently amended) A self-contained leak location device comprising a housing capable of travelling in a pipeline, the housing accommodating a hydrophone, a timer and a memory, where in the hydrophone and the timer are capable of generating an output and the memory is capable of recording the hydrophone output with reference to the timer output, said device shaped and sized to travel in the flow of fluid through the pipeline and the device having substantially neutral buoyancy in the fluid passing through the pipeline.

2. (Original) A leak location device according to claim 1 in which the housing comprises a resilient outer surface.

3. (Original) A leak location device according to claim 1 or claim 2 in which the housing is shaped and sized such that the device may be introduced into and retrieved from a pipeline through standard fittings.

4. (Cancelled)
5. (Currently amended) A leak location device according to ~~any preceding~~ claim 1 in which the housing is spherical.
6. (Currently amended) A leak location device according to ~~any of claims~~ claim 1 ~~to 4~~ in which the housing is an oval shape.
7. (Original) A leak location device according to claim 6 in which the device is arranged such that the centre of buoyancy and centre of gravity lie on its long axis.
8. (Original) A leak location device according to claim 7 in which the centre of buoyancy and the centre of gravity are separated from one another along the axis.
9. (Currently amended) A leak location device according to ~~any preceding~~ claim 1 which is arranged to record the hydrophone output and the timer output as the device passes through the pipeline.
10. (Cancelled)

11. (Currently amended) A leak location device according to ~~any preceding~~ claim 1 which is arranged such that in use it is be used to determine that there is a leak and locate the position of that leak.

12. (Currently amended) A leak location device according to ~~any preceding~~ claim 2 which comprises an electromagnetic transmitter.

13. (Original) A leak location device according to claim 12 in which the electromagnetic transmitter is a low frequency continuous detector-occasional transmitter (CDOT).

14. (Original) A leak location device according to claim 13 in which the CDOT is arranged to detect low frequency electromagnetic signals and provide an output to the memory of the time at which these were received.

15. (Original) A leak location device according to claim 14 in which the CDOT is arranged such that when a signal is received, the CDOT transmits a signal.

16. (Original) A leak location device according to claim 15 in which when a time passes since last detecting a

signal that substantially exceeds a predetermined expected time, the CDOT periodically transmits an alarm signal.

17. (Currently amended) A method of determining the presence and location of leaks in a pipeline comprising:

i) inserting a self-contained leak location device capable of detecting and recording the occurrence of noise into the flow of fluid within the pipeline;

ii) allowing the leak location device to travel through the pipeline with the fluid flow;

iii) causing the leak location device to detect and record noise in the fluid; and

iv) causing the leak location device to record the time at which noise is detected and wherein the device is provided to have substantially neutral buoyancy in the fluid passing along the pipeline.

18. (Original) A method according to claim 17 in which the method further comprises retrieving the leak location device from the pipeline downstream to its insertion point.

19. (Original) A method according to claim 17 or 18 which includes the further step of downloading the recorded instances of noise along with the time at which they were

detected onto a computing device.

20. (Currently amended) A method according to ~~any of claims~~  
claim 17 to claim 19 which further comprises recording the  
time at which the leak detection device is inserted into  
the pipeline and/or the time at which it is retrieved  
therefrom.

21. (Currently amended) A method according to ~~any of claims~~  
claim 17 to 20 which further comprises tracking the  
position of the leak detection device as it travels through  
the pipeline.

22. (Original) A method according to claim 21 in which  
tracking is achieved by causing the leak detection device  
to emit a signal periodically and/or continuously, on  
receipt of a signal.

23. (Currently amended) A method according to ~~any of claims~~  
17 to 22 which further comprises inserting the device into  
the pipeline and/or retrieving the device from the pipeline  
using a standard fitting.

24. (Currently amended) A method according to ~~any of claims~~

claim 17 to 21 which further comprises placing surface electromagnetic emitters and/or detectors at points along the pipe and causing the emitter/detector to emit a signal.

25. (Original) A method according to claim 24 which comprises causing the leak detection device to pass beneath a surface emitter, the leak detection device detecting a signal from the surface emitter and recording the time at which this occurs.

26. (Currently amended) A method according to claim 24 ~~or claim 25 which further comprises having detected~~ wherein once the device further detects the signal transmitted from the surface, ~~causing~~ the device is caused to emit a signal that is detected by the surface emitter/receiver, causing the emitter/receiver to display the fact that the leak location device has reached that point.

27. (Currently amended) A method according to ~~any of claims claim 17 to 24~~ which further comprises causing the leak location device to collect acoustical data, comparing the data to predetermined data indicative of a leak, detecting any match with the predetermined data and displaying the presence of any leaks and their location along the pipeline

that has been traversed.

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

31. (Cancelled)

32. (Currently amended) A leak location system according to ~~any of claims claim 1 28 to 31~~ wherein the leak location device is used in conjunction with ~~which comprises a~~ computing means arranged to process data collected by ~~the~~ said leak detection device.

33. (Original) A leak location device system according to claim 32 in which the leak detection device and the computing means are arranged such that the data may be downloaded from the leak detection device onto the computing means.